

National Aeronautics and Space Administration



# MUREP

Minority University Research and Education Project

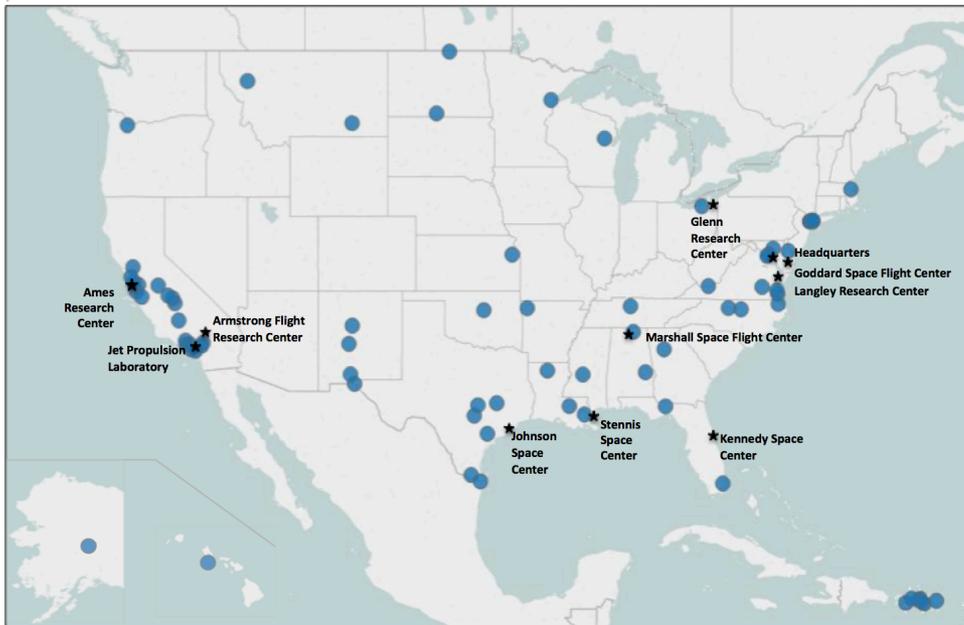
*More than an acronym...  
it's a purpose.*

Broadening Participation  
NASA Advisory Council  
By Joeletta Patrick  
June 29, 2016

# Broadening Participation in STEM Fields

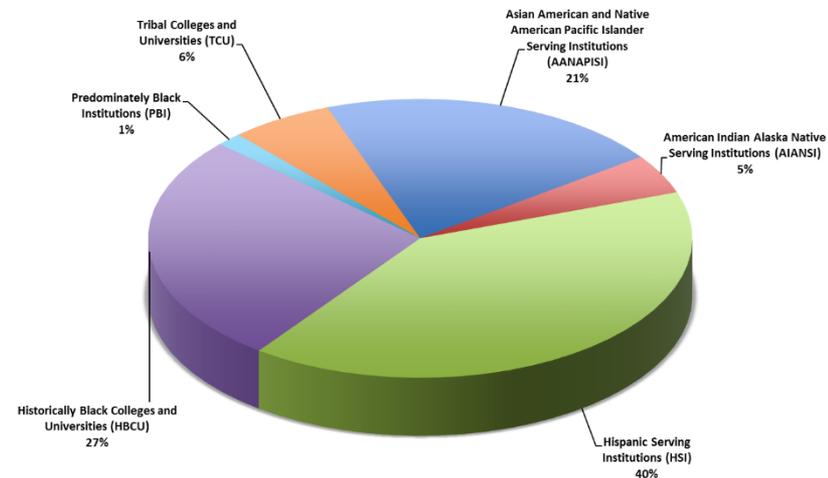


FY2015 MUREP Awards by Location



**\*\*Note:** Some dots may represent more than one Institution for Institutions located in the same city.

MUREP FY2015 Investments by MSI Designation



**\*\*Note:** Some Institutions have dual MSI designations.



# Educator Professional Development

# NASA STEM Educator Professional Development Collaborative

## Cooperative Agreement with Texas State University



### Key Goals



- **Leverage NASA Innovation to:**
  - **Advance understanding of Earth and develop technologies** to improve the quality of life on our home planet
  - **Advance the nation's STEM education and workforce pipeline** by working collaboratively with other agencies to engage students, teachers and faculty in NASA's missions and unique assets
  - **Improve STEM instruction** by preparing 100,000 excellent new K-12 STEM teachers by 2020 and supporting the existing STEM teacher workforce



# NASA STEM Educator Professional Development Collaborative Cooperative Agreement with Texas State University



## Key Activities



### 1. Minority Teacher Education Network (Focused on faculty from participating MSIs)

- Focus on culturally relevant STEM curriculum
- Norfolk State University, North Carolina Central University, University of South Florida, Salish-Kootenai College, California State University, Northridge

### 2. Emerging Stars Network

- Pipeline for MSI TEN

### 3. Multimodal Educator Professional Development

- Reached 9,356 Educators through face-to-face and online mediums



“Every visit, our EPDC Specialist comes with supplies, materials, games and methodologies for inspiring teachers and students. At the end of every presentation, it is the teachers who are sorry to see her go. As the administrator, I am THRILLED to see her coming, knowing that my team and I will grow. ... It is presentations such as these that allow us to take our students to the next level.”



- School principal in California.

# MUREP Educator Institutes (MEI)



- Summer Institutes – Planned and Completed
  - 343 Students
  - 66 Faculty
  - Total 409 Participants
- MSI Compliment
  - \*24 HSI, 19 HBCU, 12 AANAPISI, 3 AIANSI, 3 PBI, 2 TCU



\* Some schools have multiple  
MSI Designation

#NASAMEI2016



# STEM Engagement

# MUREP STEM Engagement (MSE)



- University of New Mexico
- 12 teams for the Physical Competition and 22 teams for the Virtual Competition.



## 2016 Swarmathon Winners!



### Physical Competition

1  
PLACE



2  
PLACE



3  
PLACE



### Virtual Competition

1  
PLACE



2  
PLACE



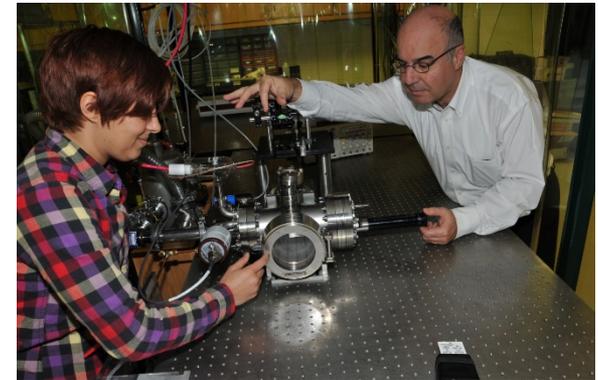
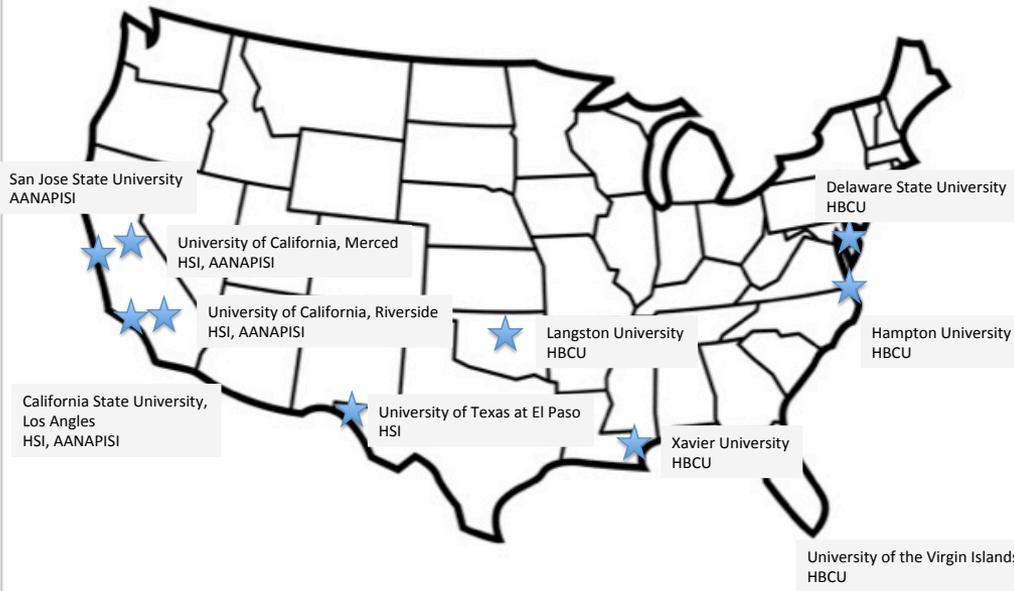
3  
PLACE



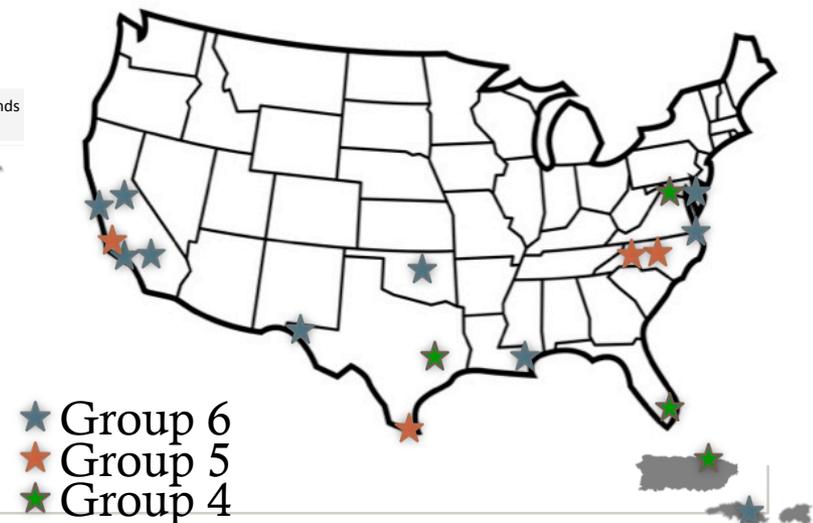


# Institutional Engagement

# MUREP Institutional Research Opportunity (MIRO)



## Group 6 Location and MSI Designation





# NASA Internships, Fellowships, and Scholarship

# Interns at Work





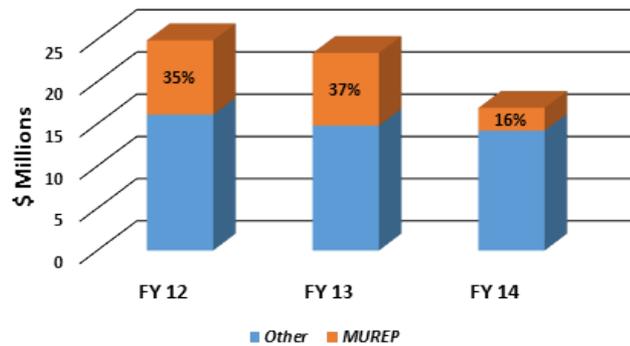
# Changing the Landscape

# Where does it count?

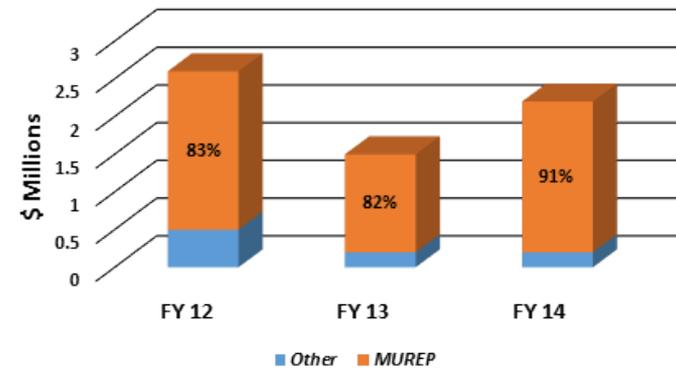


## MUREP Data on the White House Report

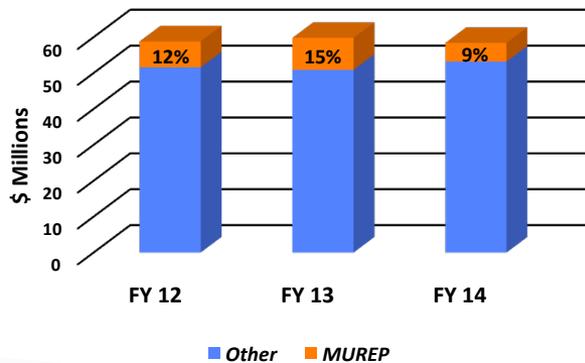
HBCU



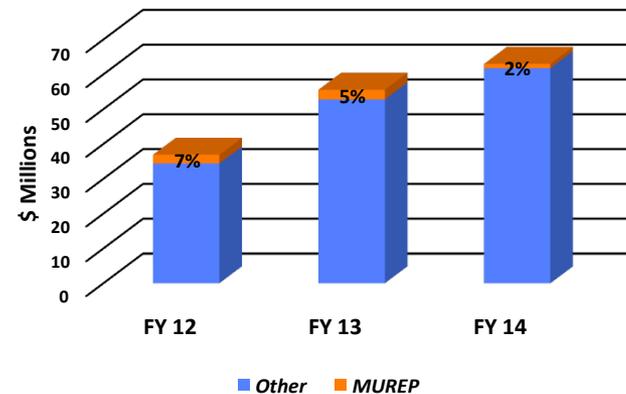
TCU



HSI



AAPI



# MUREP Strategic Focuses



## MSI Goals

- Predominantly Black Institutions – FY14 0%
  - Get on the board
- HBCU – Reach 36% contribution
- TCU – Maintain 85% to 90% contribution
- Develop strategies to reach HSI and AANAPISIs
  - JPL – Lead

# MUREP Report Card Sample



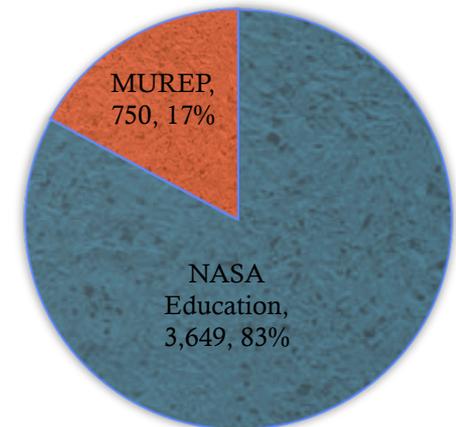
## MUREP Education Performance Assessment

### ED 14 – 1 : Higher Education Students

Performance Goal	Annual Performance Indicator
2.4.1: Assure that students participating in NASA higher education projects are representative of the diversity of the Nation.	ED-14-1: Provide significant, direct student awards in higher education to (1) students across all institutional categories and levels (as defined by the U.S. Department of Education); (2) racially or ethnically underrepresented students, (3) women, and (4) persons with disabilities at percentages that meet or exceed the national percentages for these populations, as determined by the most recent, publicly available data from the U.S. Department of Education's National Center for Education Statistics for a minimum of two of the four categories.

#### OPEM DATA POINT

Total #of NASA student participants that received significant direct awards.



Activity Nam	Faculty Projects	FE	HE	In-Service Teacher Projects	Internship	Other	Pre-Service Teacher Projects	Research Infrastructure	Scholarship	Travel Award	Total
Reduced Gravity Student Flight Opportunities	0	4	151	0	1	0	0	3	4	0	163
Harriett G. Jenkins Graduate Fellowship Program (JGFP)	0	30	0	0	0	0	0	1	0	0	31
NASA Harriett G. Jenkins Pre-Doctoral Program (JPFP)	0	33	0	0	0	0	0	1	0	0	34
NASA Science and Technology Institute for Minority Institutions (NSTI)	0	0	58	0	44	0	1	1	0	0	104
Tribal Colleges & Universities Project (TCUP)	0	0	28	0	0	0	0	0	0	0	28
University Research Centers (URC)	22	139	6	0	37	15	0	27	80	23	349
Motivating Undergraduates in Science and Technology (MUST)	0	2	3	0	1	0	0	0	1	0	7
Minorities in Science and Engineering	0	0	0	0	14	0	0	0	1	8	23
MUREP Scholarship Program	0	0	0	0	1	0	0	0	9	1	11
<b>Total</b>	<b>22</b>	<b>208</b>	<b>246</b>	<b>0</b>	<b>98</b>	<b>15</b>	<b>1</b>	<b>33</b>	<b>95</b>	<b>32</b>	<b>750</b>

Figure 1. MUREP's contribution to NASA Education total for Significant Awards in Higher education.



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